

Translation from Dutch

Patent Office, The Netherlands

Publication No.: 9300266

**PATENT DISCLOSURE**

Registration No.: 9300266

Filing Date: February 10, 1993

Int. Cl.<sup>5</sup>:

G07F 7/00, G06F 15/21,  
G06F 15/24, G01D 13/02,  
G01D 13/26

Disclosure Date: September 1, 1994, I.E., 94/17

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**Automated Selling System**

Method for automated selling of at least one product at for example an auction, characterized by at least the following steps:

- a. Reporting offer data with respect to the product to a central exchange (3);
- b. Starting a bidding period, in which one or more buyers can make at least one bid on the product;
- c. Completing the bidding period after a preestablished period of time;
- d. Establishing one or more valid transactions with respect to sale of the products;
- e. Establishing whether any product is still left after these valid transactions and, if so, repeating steps b through e for the remaining product;
- f. Closing the sale if the product is completely sold out.

[Figure 2]

The documents attached to this sheet are a copy of the originally filed specification with claim(s) and any drawing(s).

## **Automated Selling System**

The invention concerns a method for automated selling of at least one product at for example an auction.

It should be noted that "selling" here may also include possible "leasing" of products.

First, the current methods of auctioning are reviewed. Apart from these more or less mechanized and automated systems, auctioning of a product without making use of mechanical and/or electrical and electronic devices does of course still exist. A characteristic of so-called auctioning by word of mouth is that it primarily means auctioning by raising a bid. The use of mechanized/automated systems always implies the method of Dutch auction. This means that the supplier starts at a high price and lowers the price until a buyer says "mine," so to speak, via electromechanical/electronic means.

The so-called auction clock occupies the central position in the automated auctioning systems. The essence of the auction clock is that it begins with a certain asking price. The clock then runs "backwards" with the understanding that each clock position represents a lower asking price.

The clock is connected to an electromechanical or electronic system that can generate a signal that stops the clock. The signal is generated by operating a switch, also referred to as the buy button.

Switches are provided for all buyers in the auction hall. The buyer who presses "his" switch first stops the clock and is thus awarded the purchase. The electromechanical (in this case electronic) system is in fact a selection system that selects the signal of the switch pressed first. In this system, buyers compete with each other.

The selection system tells the "clock system" which one of the switches was first operated. In order to be able to distinguish between different switches each is provided with its own "address," in this case "sender number," or is connected to a so-called batch or buyer card reader. Based on the transmitted unique number, the system "knows" who operated the buy button first. A debit number can be connected to the number so that automatic invoicing, etc. is made possible. However, this is not essential for the auction system.

Usually the buyer tells the auctioneer how much of the product being auctioned he wishes to purchase. This is in a situation in which the product consists of a number of sales units. In stating

the amounts he intends to purchase, the buyer is often kept to both a minimum purchase and a maximum.

Naturally there are also situations in which the buyer must immediately purchase the entire lot (which is self-evident for a situation in which the offered product is only an "object").

In some auctions the purchase selection system is equipped with a device that allows the buyer to state the number of units he wishes to purchase by pressing the buy button. In such a system, the buyer has a number of different push-buttons. Characteristic of those buttons is that they all stop the clock, but that the switch which was used determines how much one wishes to buy. In advanced systems the switches can be "software-loaded" with other values according to the product offered for sale.

Simultaneous auctioning and teleauctioning have been developed over the past years. The essence of these systems is that the product is offered to a larger buying public and also that the buying public need not be present at the same auction.

Teleauctioning facilitates a concentration of supply and demand by coupling the auction clocks of different auctions by means of data transmission devices. The buyer who first presses the buy button in the coupled clock systems is the one who stops all the clocks of the connected auctions. Via an audio system the buyer tells the central auctioneer (who can be located at a different auction than the one at which the buyer is located) the amount to be purchased.

The buyer can indicate from which auction he wishes to purchase the product. In some cases he can also indicate to which auction he wants the product to be delivered.

The principle of simultaneous auctioning deviates from teleauctioning, although here again coupled clocks are involved. During simultaneous auctioning a so-called master auction offers its product by means of its clock to buyers. A "copy" of the master clock is in operation at the cooperating simultaneous auctions. The "master auctioneer" sells the product of his auction, while buyers at his auction and the other auctions can stop the clock. The technique for this process is the same as in teleauctioning. However, each auction functions as a master auction for its own product. In this case, the cooperating simultaneous auctions all must install and have operational the same number of clocks in each auction hall as there are participating auctions. The clocks in the auction hall therefore run independently of each other. Each clock is (remote) controlled by a master auctioneer. The buyer first selects (with a selection switch) the clock from which he wishes to purchase. Then,

if he is the first to press, only that clock is stopped, as well as all the clocks coupled to it at the other auctions. In teleauctioning only one clock system needs to be present per auction hall. The point of simultaneous auctioning is that the auctions all offer the same products simultaneously. Thus, the same product is auctioned on all clocks, but selling is parallel. If the system is followed consistently, an auctioneer does not begin auctioning the next product until all auctions in the simultaneous cluster are ready to begin with sale of that same product.

Whereas, for example, four cooperating auctions require one clock per auction hall, during simultaneous auctioning that means four clocks are in use per auction hall. If for reasons of time two different products are to be auctioned simultaneously, then two clocks per auction hall are required in teleauctioning and eight during simultaneous auctioning!

Both simultaneous and teleauctioning have various shortcomings. Teleauctioning actually uses one clock which offers the total product of several auctions. The product amount being sold is increased, which means the auction time is longer than when the auctions sell their product separately. Teleauctioning in some way is the serial selling of products of the different auctions, as opposed to "parallel" selling processes in the case of the auctions selling independently of each other.

In theory teleauctioning time could be reduced by raising the minimum amount to be purchased; however, increasing the minimum purchase amount also has a drawback. The money value for each push of the buy button is then increased in principle and so is the risk for the buyer. If a buyer mistakenly presses a higher clock position than planned, it will cost him more money than in a situation in which he may purchase a lesser amount. Most buyers sitting in the auction halls are on assignment from "central purchasing agents" like exporters. The buyer (agent) in the auction hall is almost always in continuous contact with his client via telephone. At the moment a buyer first stops the clock he often is still discussing with his client the amount to be purchased .

Communication between buyers in the auction halls and their clients takes comparatively a lot of time. In cases in which the buyer transmits an order to the auctioneer for several clients "per press," the communication time is of course even longer.

The duration of teleauctioning is a serious shortcoming. The auctions must auction all products within a specified time period in order to prevent their buyers from running out of time from a logistical standpoint. This means that the number of connected auctions cannot be increased

unlimitedly. Auctioning time is invariably lengthened with an increase in size of such cooperating clusters.

Furthermore, the investments involved in simultaneous and teleauctioning installations are relatively high.

Simultaneous auctioning also has a number of shortcomings. Although the increase of auctioning time during simultaneous auctioning plays a much lesser role than in teleauctioning, the amount of clock equipment for simultaneous auctioning is relatively large. The amount of data communications equipment is much greater than in teleauctioning. It must be considered that this data communication involves not only line connections for coupling of various computer systems, but also the necessary audio connections. This entails high investments.

In addition, it is naturally absolutely essential that buyers simultaneously keep an eye on several clocks and must choose in a very short time interval the clock on which they will purchase. In practice it means that during simultaneous auctioning several purchasing agents are present per auction; each purchasing agent then takes care of one clock.

During simultaneous auctioning the auctioneers make sure that as much as possible the same product is auctioned on each clock. This "synchronism" is therefore brought about by the auctioneers.

It is true for both simultaneous and teleauctioning that under practical conditions the quality of the audio switches is inadequate. Although this could be improved, it would only be with very substantial investment.

Because of the investments connected with simultaneous and teleauctioning, smaller auctions cannot join in.

One can conclude from the aforementioned arguments regarding present auctioning methods that the coupling of all teleauctioning clocks in order to achieve maximum (nationwide) concentration of supply and demand is not feasible due to the resulting unacceptable auctioning times.

One objective of the present invention is to devise an automated selling system and automated selling method with which auctioning processes (like auction clocks) can be connected on a nationwide scale without producing unacceptably long auctioning times.

For this purpose the method mentioned in the introduction is characterized by at least the following steps:

- a. Reporting offer data with respect to the product to a central exchange (3);
- b. Starting a bidding period, in which one or more buyers can make at least one bid on the product;
- c. Completing the bidding period after a preestablished period of time;
- d. Establishing one or more valid transactions with respect to sale of the products;
- e. Establishing whether any product is still left after these valid transactions and, if so, repeating steps b through e for the remaining product;
- f. Closing the sale if the product is completely sold out.

Moreover, the invention concerns a system for selling of at least one product by at least one auction with the characteristic that the system comprises at least:

- a central exchange;
- means for introducing offer data with respect to the product into the central exchange;
- means for making at least one bid on the product, said means being connected to the central exchange at least via communications channels.

The method and system offer the possibility of selling the offer simultaneously at all auctions at relatively low cost. It is essential that several products can be sold simultaneously. It makes no difference for the system whether the buyer is located at a certain auction or elsewhere. The technical requirements of the system are such that in terms of investments much lower costs are involved than with the traditional auctioning clocks. In addition, during use of the new auctioning system auctions can transfer a large part of the investment costs to the buyers if at least buying from a distance is permitted.

The method and system combine all the advantages of local, simultaneous and teleauctioning without the connected drawbacks. In addition, all kinds of new capabilities become available with limited investment. One can consider buying from a distance, central automatic debiting, automatic generation of reviews with respect to logistic data, etc. A further advantage is that no (expensive) audio connections are required among the various auctions.

In the context of switching existing auctioning systems over to the proposed system it can be established that both systems (in the same auction hall) can operate side by side. Systematic switchover is therefore possible without extra problems. This is attractive from an organizational standpoint.

The invention will be explained below with reference to a few drawings intended for illustration.

Figure 1 shows a diagram of the selling system according to the invention.

Figure 2 shows a diagram of an alternative selling system.

Figure 3 shows a diagram of another alternative selling system.

Figures 4 and 5 show flow charts of methods for selling or auctioning of products at an auction, for example.

The proposed auction system has capabilities for introducing data concerned with offers of articles/products/services ("products" for short) for sale or lease.

Depending on what is offered for sale/lease ("sale" for short) various characteristics and properties will be indicated. The data concerning characteristics and properties are referred to below as "product data."

In addition to product data, also the data concerning delivery conditions, prices, etc. are often important. These data are referred to below as "delivery data."

The totality of "product data" and "delivery data" is referred to as "offer data."

The system has capabilities for the introduction of offer data. The system also offers the possibility of acceptance of offer data for different types of products.

The system can receive and store data based on which relations between various product data, delivery data and offer data can be provided. This group of data (in this case parameters) will be referred to below as "structural data."

The system can carry out processing based on structural data on the aforementioned three groups of data (in combination or not). The results of these processes can be stored and made available. Offer data both processed and unprocessed by means of structural data are referred to as "offer data" here.

The system offers the possibility of receiving and processing data concerning "bids" made by interested parties on the offered products. The data with respect to bids are referred to below as "bid data."

The system also offers possibilities for receiving, storing, processing and making data available with respect to agencies and persons that can be qualified as "potential" buyers. Thus, the system can (optionally) provide debit control.

The system can receive data that are viewed as bids on one or more of the offered products; provisions are made for submission/compiling of bid data by potential buyers.

To arrive at sales transactions it is necessary that the system have data that must be handled for awarding of purchases. It is established in these data which bids must be converted to sales transactions in relation to offers. These data are referred to below as "transaction parameters."

In summary, the system can receive, process, store the following input data, and make them available either processed or in their original form.

- product data;
- delivery data;
- structural data;
- debiting data;
- bid data;
- transaction parameters.

Based on offer data, the system determines at specified moments which bid data must be regarded as (purchase) "transactions." The moment that these decisions are made are determined by the transaction parameters or by a "transaction command" given to the system.

Transactions are stored and made available; the system is equipped for this purpose.

The system is supplied with data; these data establish what is being offered for purchase. These data are sent to buyers/lessees who are (potential) "clients." The system offers clients the possibility of informing the system whether they wish to purchase. Depending on the offered products, "purchase conditions" can be stated, such as the price, amount, delivery locations and any other conditions. In the course of this description this will be referred to as "an offer" or "a bid." Submitting a bid is possible during a predetermined time. During this time the client can opt to revise or alter the bid for a certain product. Thus an earlier bid of that client for that product is canceled. During this period the client can also completely cancel a bid.

The periods in which the client can submit and alter bids will be referred to as the "bidding time."



If different products are offered simultaneously the client can submit a bid for each of the products (and thus also alter any bid).

During the bidding time the system can provide information to clients with respect to bids made up to that point. Based on this information clients can consider altering their bids or submitting a bid if they have not done so already.

When the bidding time has elapsed the system processes the bids and determines which bids are qualified as purchase transactions based on the transaction parameters. The clients who are awarded transactions are informed.

The system will then furnish offer data in a new "bidding round." This new round could involve remainders of products offered in the previous "round," or, possibly, new offers.

The system has the potential to encourage price stimulation. For example, by furnishing information concerning the highest bids during bidding time, clients who had submitted a lower bid are challenged to increase their bid.

After each bidding round data are made available concerning the level of the prices and the purchased amounts of the transactions. This, too, will have a competitive and thus price-reinforcing effect.

Figure 1 shows the concept of the system. To illustrate the concept it is "filled in" with specific devices (electronics, software, data communications, etc.). A description of this concept shows its application during an auction. In the situation according to Figure 1 there is no combined selling with other auctions (yet). This is called a local auction. A local auction may also involve simultaneous selling of different products.

Next, the system is described as to how it can be used when auctions are mutually cooperating (Figures 2 and 3). In this case a variation on the designed concept is also provided.

As a first example of such a cooperative relation a situation is described in which all auctions in The Netherlands sell the same product together. As a variant of this it is also shown how several products can be sold simultaneously.

Finally, it will be discussed how cluster selling can be accomplished; a number of variants are conceivable here. Finally, a number of (extra) capabilities are discussed that are possible during use of the system without requiring additional equipment or investments.

It will become clear that the system's immense flexibility facilitates many selling variants without implying structural differences or higher investments.

It should be pointed out that the versions being discussed are only examples. The simplicity of the principle makes it possible to achieve its implementation with a wide variety of technical means.

The design of the system has a central system 3 (for instance a personal computer) that is capable of receiving and storing both directly and from a distance the data of a product being offered for sale.

*Figure 2.*

A sample auction using a personal computer 3, makes it possible to enter so-called offer data by means of a keyboard belonging to PC 3 via a data channel 2. In addition, PC 3 is connected to a number of communications channels 8. The offer data can be introduced through these channels 8 and via terminals 7<sub>1</sub> or other personal computers. The communications channels 8 could meet for instance the RS-232 standard. However, RS-442 or RS-485 are possibilities for use, too, as well as any other (tele)communications connections that are known to the expert.

Similar communications channels 4 facilitate a connection with PCs 5<sub>1</sub> intended for the buyers. It makes no difference whether the buyers' PCs 5<sub>1</sub> are positioned at the auction or elsewhere (for example, in the office of the buyers). In the latter case standard data communications equipment such as modems must be installed. The necessary connection can be established through rented lines or dedicated lines.

A buyer who connects via his PC 5<sub>1</sub> with the central exchange 3 must be known in central exchange 3. All kinds of simple or complicated registration and log-in procedures can be used. Each auction can select its own method as it is not essential for the invention. Another option is to verify the credit rating of the buyer during registration. Central exchange 3 must be equipped to do so if this option is needed. However, it is also conceivable that the central exchange 3 communicates with another system 9 (for example, a bank), where verifications are carried out. Finally, the central exchange 3 must "know" whether the buyer seeking connection is acceptable.

As mentioned, the following data elements belong to the offer data: product, amount, minimum and maximum number to be purchased per "sales round" and minimum price. In addition, data concerning the product name, packaging, historical prices, etc. can be included, as well as times of availability, delivery locations, etc.

The buyer connecting with central system 3 can distill (or have distilled) all possible information from the offer data. To simplify the description it is assumed that buyers can derive from the offer data which products will be sold in which sequence. Naturally one will also be informed at what time the sale will start.

Figure 4 shows a possible method for selling of products. After starting the program (step 11) the system waits for the offer data of the products being offered for purchase (step 12). The offer data consist, for example, of product data 12a, delivery data 12b and structural data 12c. When the offer data are remotely entered, for example with terminal 1 or PCs 7<sub>1</sub> the system waits for a start command (step 13), which can be entered by for example the auctioneer, also by means of terminal 1. Following the start command, the following data, for example, appear on the buyer's screen:

- product (number, name);
- available amount;
- minimum to be purchased (if relevant);
- maximum to be purchased (if relevant);
- minimum price (if relevant);
- optional: an indication of the price the last time the product was sold;
- optional: credit range.

It is essential to the sales method that the buyer during a specified time (the so-called bidding time) from the start command is given the opportunity to submit a bid (step 14). A bid consists of an amount of money and a purchase amount. A buyer may also submit several bids for one product, in which the amount of the bid is dependent on the amount to be purchased.

Example: The buyer is willing to pay 2 guilder for a unit of tomatoes and wants to buy 140 boxes (one pallet) at that amount. However, the same buyer would also want buy five pallets at once instead of a single one, but in that case he would only want to pay 1.80 guilder. Clearly, the number of bids need not be limited to two.

To keep this description simple, let's assume that buyers can only submit one bid.

During the bidding time the central exchange could send data concerning the received bids to the buyers (step 15). For the sake of pricing it is advantageous that the central exchange sends to all buyers the highest bid price received up to that point. Step 15 clearly is optional and can be omitted if so desired. Buyers who have submitted a lower bid might perhaps be enticed by the information concerning the highest bid into revising their previously submitted bid and to make a new bid and send it to central exchange 3. The progress of the bidding time is continuously displayed on the screen of the buyer in the form of a clock running back to zero, for example.

As soon as the bidding time is over (step 16) central exchange 3 determines which bid or bids are considered a purchase (purchase transaction) (step 17). Central exchange 3 may use a variety of criteria to establish purchase transactions. However, these must be known before the beginning of sales both to central exchange 3 and to the potential buyers. If an auction operates with various criteria these must of course be sent to the buyers' PCs 5<sub>1</sub> before the auction (or made public in advance, for example, in writing).

For example, the first three highest bid prices are eligible for purchase transactions.

After the bidding time is over the central exchange determines which three bids are eligible for transactions. The combination of the highest bid and in the event of equal bids the bid first received is processed first. In the event of insufficient products available to honor the second and/or third bid the remainder will be awarded. The central exchange 3 sends to the buyers' PC 5<sub>1</sub> information concerning the transaction that is "recorded" for the corresponding buyer (step 18).

It is conceivable that the three bids will not comprise the entire amount of offered product. If remaining products are still available (step 19), the program goes back to step 13 in which it waits for a new start command from, for example, the auctioneer. In this case the central exchange 3 will send the buyers data concerning the remaining amount. A new bidding round then starts and buyers can submit a bid again during the same bidding time. The central exchange 3 will again distribute data concerning the highest bid, based on which the buyer might again adjust his bid.

In short, bidding rounds are repeated until the corresponding product is sold. Once the system determines that the entire lot of products is sold (step 19), it sends a corresponding report to all buyers (step 20). Then the entire procedure can start over and the central exchange can send data concerning the next product being sold. The same procedure is being used over and over again.

Earlier, "the first received bids" were mentioned. It is likely that bids sent by buyers from a distance take longer than bids of buyers who are present at the auction. It is even true that the transmission times of various remote buyers will differ. This means that buyers with the longest transmission time are in fact forced to submit their bids sooner than other buyers. Naturally this only plays a role in the event of equal bid amounts. The unfairness caused by different transmission times could be eliminated by the following procedure.

At the start of a bidding round the central exchange sends a certain report to the buyer systems that includes, among other things, a reference time. The buyer systems  $S_i$  each measure the time that elapses between the time the report was received and the reference time at which the bid was sent. This time difference is sent with each bid. Central exchange 3 can use this time difference to establish which buyer submitted the highest bid earlier. Modern personal computers can "measure" time differences in thousandths of a second. In the event that two bids are exactly the same central exchange 3 can designate a first, second, etc. bidder based on a sort of electronic dice.

The central exchange 3 receives all bids and structures them already during the bidding time based on bid amount. Bids with a low amount are not to be discarded, since buyers who submitted a high bid can still lower their bid during the bidding time.

When using minimum prices and/or minimum and maximum amounts to be purchased per bid, provisions must be incorporated in the buyer system so that only bids that fall within the standards are sent. Naturally, the central exchange can also check each bid for reliability relative to the selling criteria in force. However, it must be prevented that a buyer assumes he has submitted a valid bid which ultimately is not accepted because it does not meet the selling criteria.

Figure 5 shows a flow chart of a user program that cooperates with the system program depicted in Figure 4. After start of the user program (step 30) it waits for supply of the offer data concerning a product being sold (step 31). Once the offer data have been received, they are displayed on suitable displays, for example a screen (step 32). The user program waits for the signal from central exchange 3, indicating that the bidding time has started (step 33). When the bidding time has started, each buyer can submit one or more bids or alter bids submitted earlier (step 35). Step 34 indicates the waiting for bid data (data with respect to the highest bids entered so far), whereas step 36 refers to sending of bids or alterations.

In step 37 the user program checks whether the bidding time has elapsed. If not, the program runs through steps 34, 35, 36 again. If so, the program continues with step 38, in which information is

received with respect to the purchase transactions approved by central exchange 3 and possible "remainder data." In step 39 these data are displayed, for example, on a screen. Once an "end" message is received (step 40) the user program is stopped (step 41). If not, it returns to step 31 and waits for new offer data.

Figure 1 shows a situation in which products are sold through one single auction. The following will explain how the system can be expanded technically so that several auctions can offer products simultaneously. This situation is shown in Figures 2 and 3. In this situation the local central exchanges  $6_i$  of the auctions are connected to a coordinating central exchange 3. The local exchanges  $6_i$  send their respective offer data to a coordinating (for example, nationwide) central exchange 3 via channels 4. Buyers report to the exchanges  $6_i$  of the local auctions via PCs  $5_{iD}$ . One of the local exchanges  $6_i$  can be set up as the coordinating central exchange.

The local exchanges  $6_i$  can again carry out verifications that are involved while buyers register. Figure 3 shows the situation in which the coordinating central exchange 3 has a direct connection to an agency 9 (for example, one or more banks) that can supply information concerning the credit rating of potential buyers. This type of monitoring, as mentioned, can also occur locally via a connection between the local exchanges  $6_i$  and one or more such agencies.

The coordinating central exchange 3 sends all offer data to the connected local exchanges  $6_i$ , who then send the data to the PCs  $5_{iD}$  of the buyers.

The buyers now receive on the screens of their PC  $5_{iD}$  the data classified according to auction. When the bidding time starts the buyers can enter bids per auction. The bids are sent from the buyers' PCs  $5_{iD}$  to the local exchanges  $6_i$ , who then direct the bids to the coordinating central exchange 3. When the bidding time has elapsed the coordinating central exchange 3 determines the transactions for all auctions and sends these to the relevant local exchanges  $6_i$ . These in turn send the necessary data to their buyers. The coordinating central exchange 3 calculates the remaining amounts per auction and distributes them via the local exchanges to the buyers. A new round can now begin.

Using a coordinating central exchange 3 allows auctions to function simultaneously on a regional or national scale. In the coordinating version, just as in the local situation, simultaneous selling of several products is possible. Clearly, the system achieves enormous improvements with respect to auction times.

The following is a variant of the foregoing:

A certain cooperating association (cluster) of auctions might agree while establishing the purchase transactions that not (for example) the highest/first three bids per auction are involved, but rather (for example) the highest/first three bids of all the participating auctions. This means that during cooperation of, say, four auctions, not twelve purchases per bidding round are approved but only three. These three purchases can be scattered over the auctions of the cluster.

This is comparable to teleauctioning now in use. The difference is that more purchases per round can be awarded. If, as in teleauctioning, only one purchase is awarded per round, then the total auction time will still be shorter than during teleauctioning, since there is no loss of time during consideration between purchasing agents at the auction and their clients.

One facet of current auctioning that has not been discussed above is so-called purchasing by subnumber. This means the following: a buyer/agent who buys for several clients has the opportunity, as already occurs at vegetable and fruit auctions, of giving to the auctioneer the amounts he wishes to purchase per client. Rather than the name of the client a so-called subnumber is called. The auctioneer enters the subnumber together with the desired amount. The computer system of the auction clock knows on the basis of the so-called subnumber table who should be awarded the purchases.

The system described here can also offer possibilities for purchasing by subnumber. For this purpose the buyer must not only state the bid price and bid number, but also a subnumber. In a bidding round, the buyer can submit or change different bids with different "subnumbers." In principle, the use of subnumbers doesn't change anything. Even during simultaneous auctioning of several auctions the required capabilities remain intact for purchasing by subnumbers.

## Claims

1. Method for automated selling of at least one product at for example an auction, characterized by at least the following steps:
  - a. Reporting offer data with respect to the product to a central exchange (3);
  - b. Starting a bidding period, in which one or more buyers can make at least one bid on the product;
  - c. Completing the bidding period after a preestablished period of time;
  - d. Establishing one or more valid transactions with respect to sale of the products;
  - e. Establishing whether any product is still left after these valid transactions and, if so, repeating steps b through e for the remaining product;
  - f. Closing the sale if the product is completely sold out.
2. Method according to Claim 1, characterized by the fact that during step b the central exchange (3) sends information to all buyers concerning the highest bid submitted up until then.
3. Method according to Claim 1 or 2, characterized by the fact that during step b each buyer has the opportunity to change or withdraw a previously submitted bid during the bidding period.
4. Method according to one of the preceding Claims, characterized by the fact that a bid can be submitted simultaneously for more than one product.
5. Method according to one of the preceding Claims, characterized by the fact that more than one bid can be submitted for the product, in which each bid comprises a characteristic combination of a price and a corresponding amount.
6. Method according to one of the preceding Claims, characterized by the fact that bids can only be between a preestablished minimum and maximum price.
7. Method according to one of the preceding Claims, characterized by the fact that per bid only a number of products between a predetermined minimum and maximum value can be purchased.
8. Method according to one of the preceding Claims, characterized by the fact that during step d the credit rating of buyers is checked prior to determination of valid transactions.



9. Method according to one of the preceding Claims, characterized by the fact that awarding of valid transactions in step d occurs for auctions grouped into one or more clusters, said auctions all being controlled remotely by central exchange (3).

10. Method according to one of the preceding Claims, characterized by the fact that buyers submit bids under a subnumber.

11. Method according to one of the preceding Claims, characterized by the fact that during establishment of valid transactions in step d a correction is made for the transmission time of bidding between the moment at which bidding occurs and the moment that the bid reaches the central exchange (3).

12. System for the sale of at least one product by at least one auction, characterized by the fact that the system comprises at least:

- a central exchange (3);
- means (1, 7<sub>1</sub>) for entering offer data of the product into central exchange (3);
- means (5<sub>1</sub>; 5<sub>1D</sub>) for submitting at least one bid for the product, said means being connected via at least communications channels (4) to central exchange (3).

13. System according to Claim 12, characterized by the fact that the central exchange (3) is located at a central auction and that the central exchange (3) is connected via communications channels (4) separately to each local exchange (6<sub>1</sub>) situated at cooperating auctions, in which each of these local exchanges (6<sub>1</sub>) is connected to its own group of bidding devices (5<sub>1D</sub>), as well as means (1<sub>1</sub>) for local entry of offer data.

14. System according to Claim 12 or 13, characterized by the fact that the central exchange (3) and/or the local exchanges (6<sub>1</sub>) are connected to one or more agencies (9) to check the credit rating of buyers.

[figures]

ja = yes

nee = no

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11 Publikationsnummer: 9300266

## 12 A TERINZAGELEGGING

21 Aanvraagnummer: 9300266

22 Indieningsdatum: 10.02.93

51 Int.Cl. 5:  
G07F 7/00, G06F 15/21,  
G06F 15/24, G01D 13/02,  
G01D 13/26

43 Ter inzage gelegd:  
01.09.94 I.E. 94/17

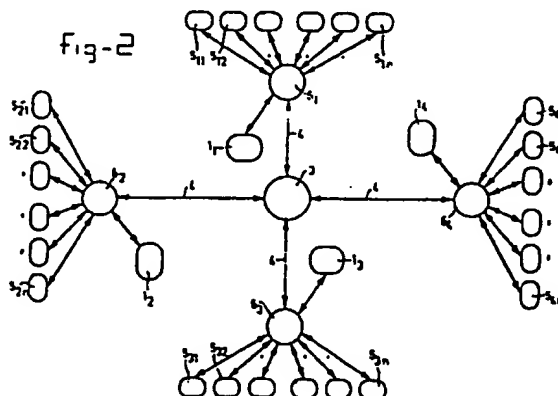
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54 Geautomatiseerd verkoopsysteem

- 57 Werkwijze voor geautomatiseerde verkoop van ten minste een produkt via bijvoorbeeld een veiling gekenmerkt door ten minste de volgende stappen:
- het meedelen van aanbodgegevens met betrekking tot het produkt aan een centrale (3);
  - het starten van een biedperiode, waarin een of meer kopers ten minste een bod op het produkt kunnen doen;
  - het beëindigen van de biedperiode na een vooraf vastgestelde tijdsduur;
  - het vaststellen van een of meer geldige transacties met betrekking tot de verkoop van de producten;
  - het vaststellen of er na deze geldige transacties nog een rest van het produkt over blijft en zo ja, het herhalen van de stappen b. tot en met e. voor deze rest van het produkt;
  - het beëindigen van de verkoop indien het produkt geheel is uitverkocht.



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De aan dit blad gehechte stukken zijn een afdruk van de oorspronkelijk ingediende beschrijving met conclusie(s) en eventuele tekening(en).

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Fig-1

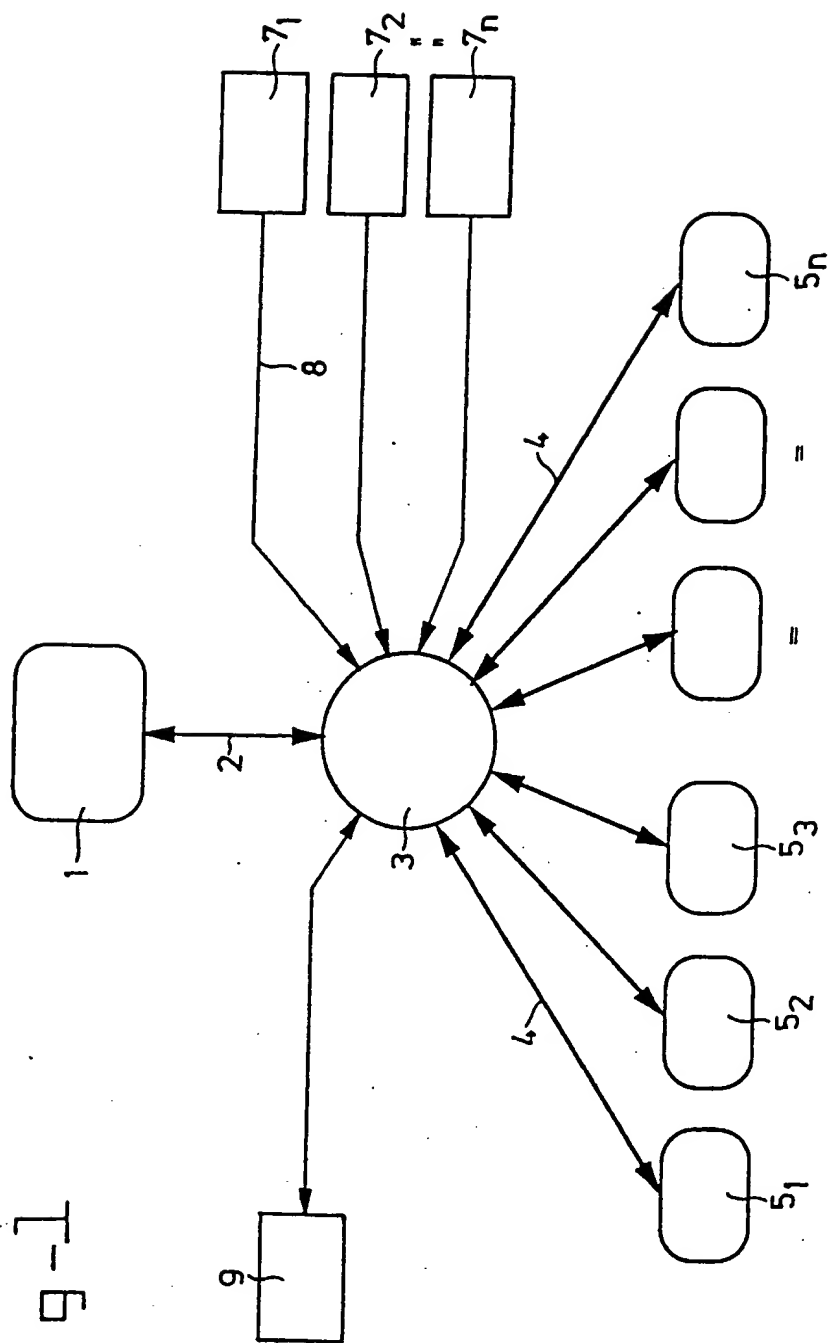


Fig-2

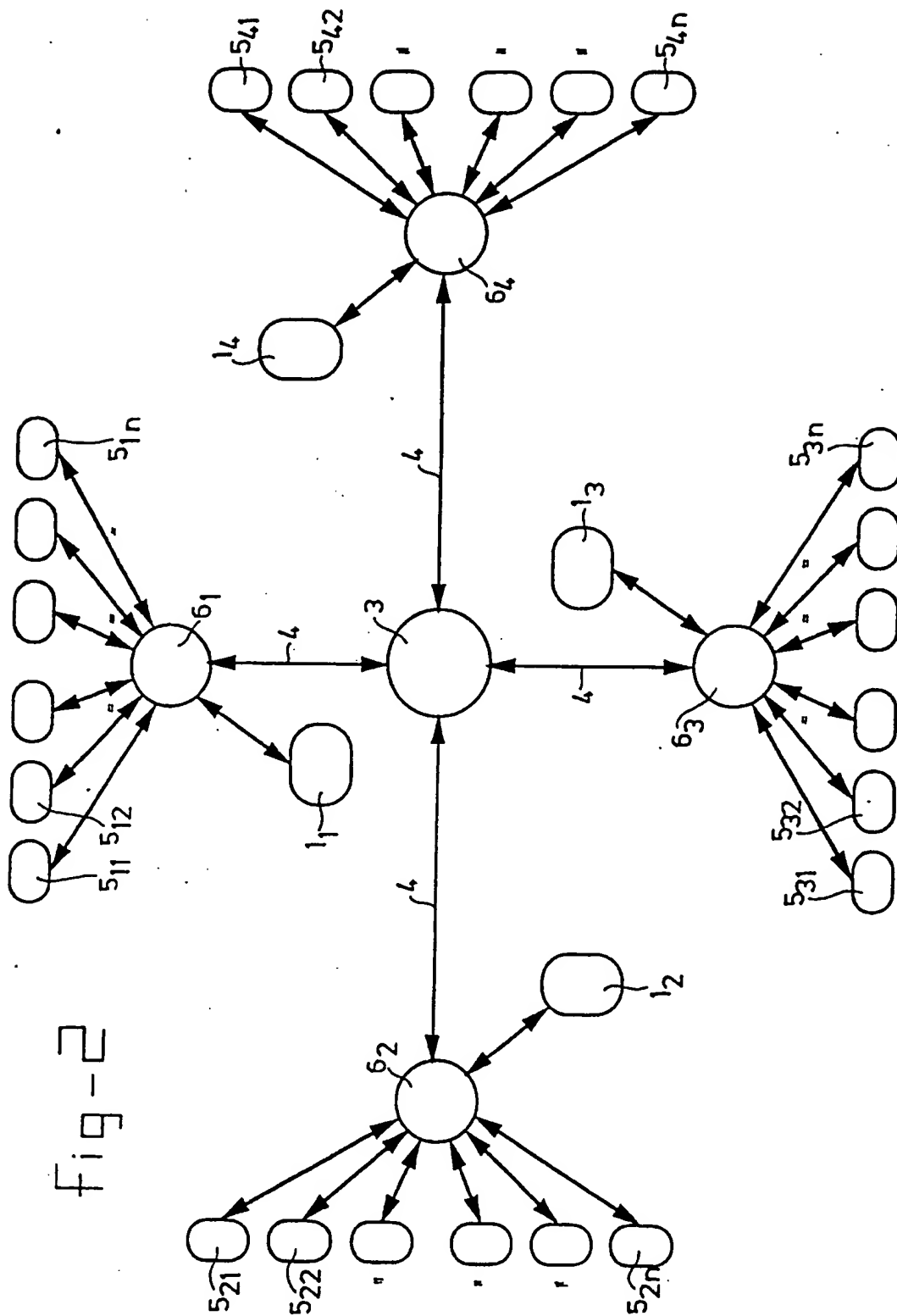
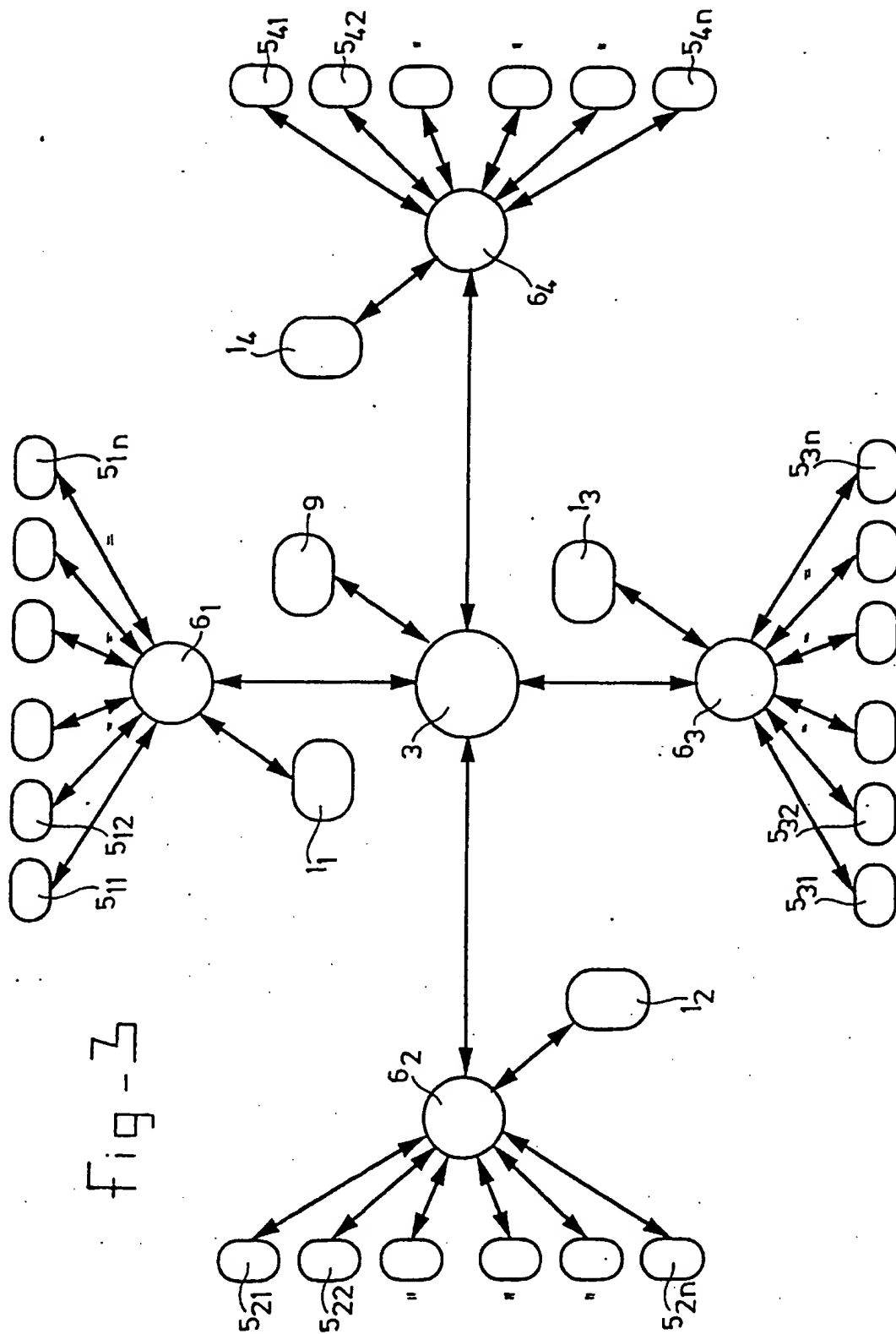


fig - 3



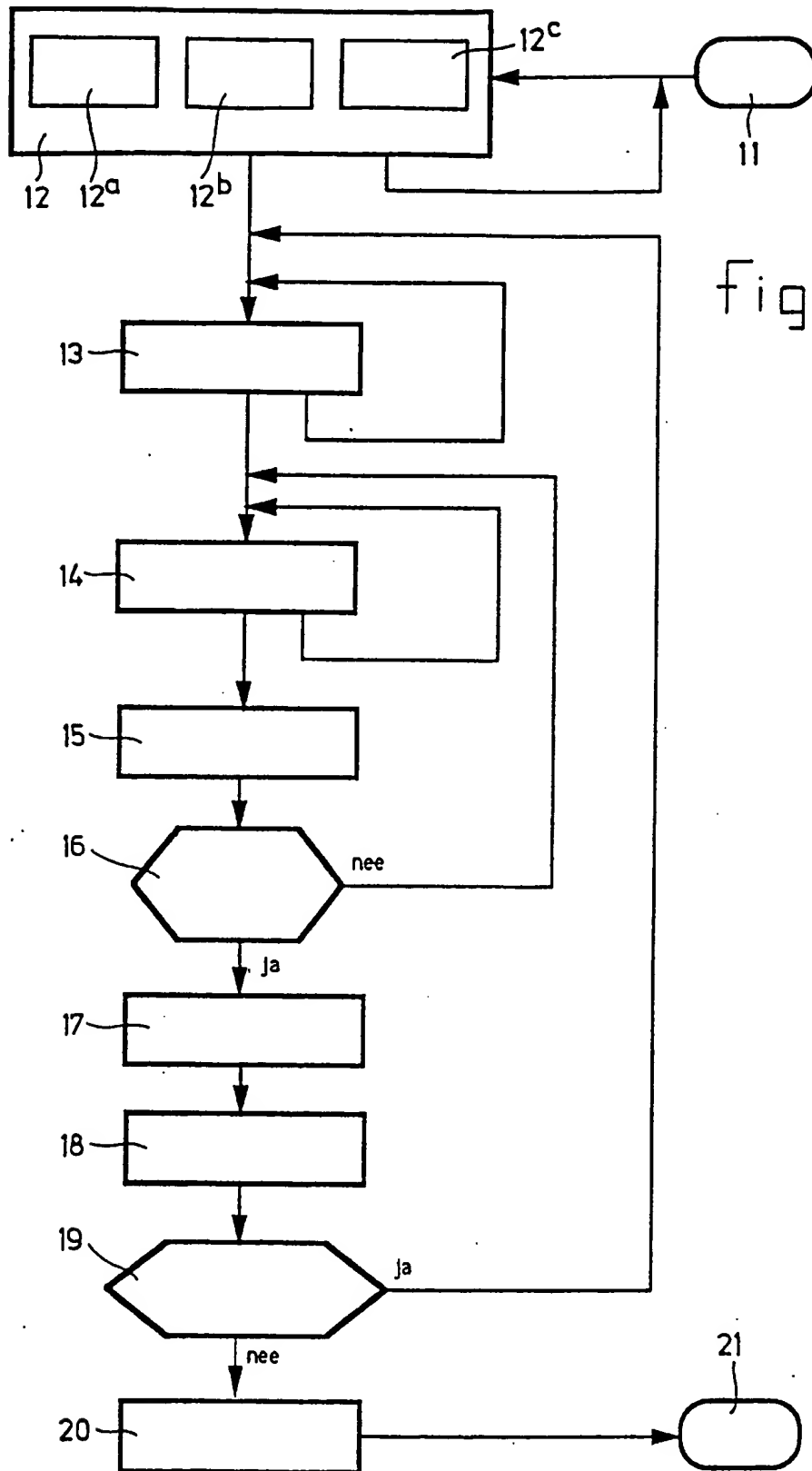
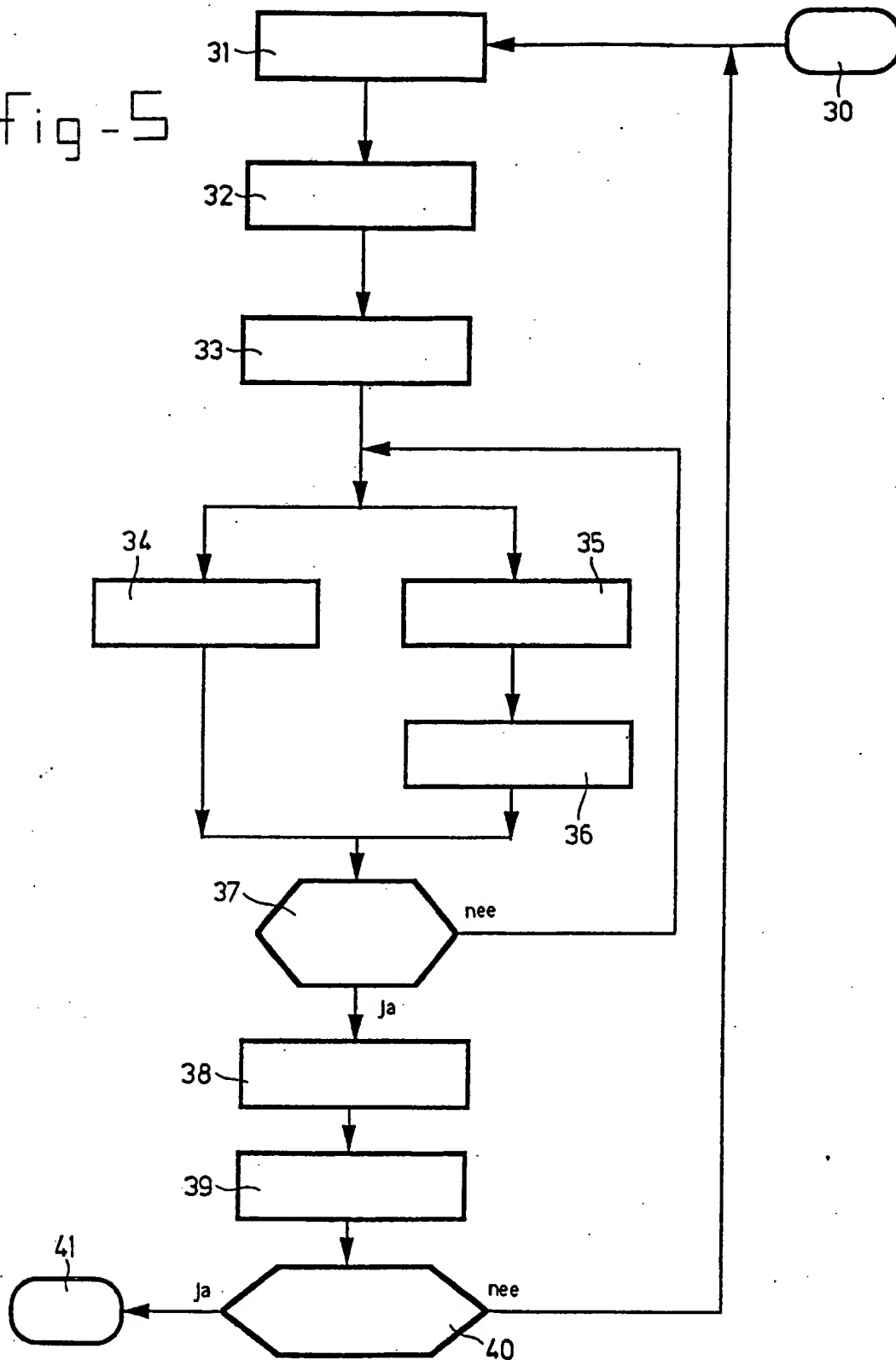


fig - 4

fig - 5



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